A South Carolina-based manufacturer of large-capacity electrical cabling produces a wide array of cable products in bulk, with the product wound onto large diameter reels that contain thousands of feet of cable. Its customers typically order in less-than-full reel quantities. To fulfill customer requirements, the manufacturer unwinds cable off of the large reels onto smaller reels for shipment.

The challenge is that a customer may order 2,500 feet of a three-inch diameter large-gauge cable as well as 3,000 feet of one-inch diameter smaller gauge cable. In the rewind area, unwinders need to provide proper tension control for the different cable sizes on the unwinding payoff reels that have varying amounts of spooled cable. Having consistent tension on the cable allows for a much cleaner spooling wrap of the cable onto the new reel that will be shipped to the customer.

A pair of Warner Electric TB-1525 brakes, with manually adjustable controls, were installed to provide variable restraint on the unwind reels. The compact TB-1525 brakes are ideally suited for unwind tension applications. Units have a maximum dynamic torque rating of 256 lb.ft. (347 Nm) and a maximum speed rating of 1,600 RPM.

By controlling the voltage to the brakes, operators can adjust the unwind tension to match the size of roll and the cable being unwound. The dual brake configuration supplies the required torque to restrain the cable from unwinding too quickly while also providing sufficient dissipation of the heat generated as the brakes slip during the unwind process.